

I CLAIM:

1. A blade, comprising:  
a substrate including a specular surface; and  
a thin, hard plate deposited on the specular surface,  
5 whereby the hard plate is microscopically flat, on the order  
of a light wavelength;

wherein the substrate is beveled toward a cutting edge  
including the hard plate, whereby the cutting edge is  
straight, on the order of a light wavelength, in a cutting  
10 direction.

2. The blade according to claim 1, wherein the substrate  
comprises

a base portion including a first material and  
a surface portion including a second material, wherein  
15 the surface portion comprises the specular surface.

3. The blade according to claim 2, wherein the second  
material comprises chromium.

4. The blade according to claim 2, wherein the second  
material comprises glass.

5. The blade according to claim 1, wherein the hard plate  
comprises a ceramic.

6. The blade according to claim 1, wherein the hard plate has a thickness on the order of a micron.

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a2  
7. A blade comprising, on at least one side of the blade, a thin, hard plate including both a thickness and a flatness on the order of a light wavelength.

8. A process of making a sharp edge on a blade, comprising:

polishing at least one side of the blade at least adjacent to a cutting edge;

10 determining when the side of the blade is at least partially specular; and

coating the specular side with a hard material.

9. The process according to claim 8, wherein a thickness of the hard material is on the order of a micron.

15 10. The process according to claim 8, wherein the hard material comprises a ceramic.

11. The process according to claim 8, wherein the step of polishing comprises heating a layer of glassy material on the polished side of the blade.

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12. The process according to claim 8, wherein the step of determining comprises watching for a reflected image.

13. The process according to claim 12, wherein the step of determining comprises providing an automatic device and the  
5 step of watching comprises detecting the reflected image with the automatic device.

14. A blade comprising at least three layers comprising a softer inner core and two harder outer layers.

15. The blade according to claim 14, in which the outer  
10 layers are metallic and the core is non-metallic.

16. The blade according to claim 14, in which the outer layers include a first material and the core includes a second material, and the first material has a higher tensile strength than the second material.

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